

CLAIMS

1/ A tapping circuit for tapping fluid from a main fluid circuit which comprises:

- 5 a hydraulic motor having a preferred operating direction and having a casing which defines an internal space and in which a cylinder block is disposed; and
at least two main pipes suitable for being put in communication with the cylinder block of the motor and constituting respectively, in the preferred operating
10 direction of said motor a feed main pipe and a discharge main pipe;

the tapping circuit comprising means for tapping fluid from the main circuit and means for removing the tapped fluid to a pressure-free reservoir via a removal
15 pipe;

said tapping circuit further comprising a single tapping and removal valve connected continuously via a tapping pipe to a single one of said main pipes, the valve also being connected to the removal pipe, and
20 wherein the main pipe to which the tapping and removal valve is connected is the main pipe that constitutes the discharge pipe in the preferred operating direction of the motor.

- 25 2/ A tapping circuit according to claim 1, wherein the tapping and removal valve has a communication passageway between the tapping pipe and the removal pipe, and wherein said valve includes means for causing the cross-sectional area of said passageway to vary as a function
30 of the pressure difference between the tapping pipe and the removal pipe.

3/ A tapping circuit according to claim 2, wherein the tapping and removal valve comprises a flow-rate regulator
35 having at least one inlet suitable for communicating with the tapping pipe, an outlet suitable for communicating with the removal pipe, a constriction interposed between

10034531.1 1522001

said inlet and said outlet, and means for causing the cross-sectional area of the passageway between the inlet and the outlet to vary in relation with the head loss through said constriction.

5

4/ A tapping circuit according to claim 3, wherein the flow-rate regulator comprises a slide mounted to move in a body, a hydraulic control chamber suitable for being fed with fluid via the tapping pipe to urge the slide to move in a first displacement direction, and resilient return means suitable for urging the slide to move in a second displacement direction opposite from said first displacement direction, and wherein one of the elements constituted by the body and by the slide has at least one communication orifice, while the other of said elements has a closure wall suitable for masking said orifice as a function of the position of the slide.

5/ A tapping circuit according to claim 4, wherein the constriction is situated in the slide, and it forms a passageway between the hydraulic control chamber and the outlet.

6/ A tapping circuit according to claim 2, wherein the tapping and removal valve has means for opening the communication passageway only when the pressure difference between the tapping pipe and the removal pipe is at least equal to a threshold value.

7/ A tapping circuit according to claim 2, wherein the tapping and removal valve has means for opening the communication passageway only when the pressure difference between the tapping pipe and the removal pipe is greater than a threshold value and is less than a limit value.

8/ A tapping circuit according to claims 4 and 6, wherein the resilient return means urge the slide continuously to return towards a position in which the communication passageway is closed off, and wherein said means are calibrated so as to allow said passageway to be opened only when the pressure in the control chamber reaches a threshold value.

9/ A tapping circuit according to claims 4 and 7, wherein the resilient return means urge the slide continuously to return towards a position in which the communication passageway is closed off, and wherein said means are calibrated so as to allow said passageway to be opened only when the pressure in the control chamber reaches a threshold value.

10/ A tapping circuit according to claims 4 and 7, wherein the tapping and removal valve has means for opening the communication passageway only when the pressure difference between the tapping pipe and the removal pipe is greater than a threshold value and is less than a limit value, and wherein the communication orifice has a length, as measured in the displacement direction of the slide, that is less than the stroke of said slide, and wherein said orifice is closed by the closure wall when the slide is in its two end positions.

11/ A tapping circuit according to claim 9, wherein the tapping and removal valve has means for opening the communication passageway only when the pressure difference between the tapping pipe and the removal pipe is greater than a threshold value and is less than a limit value, and wherein the communication orifice has a length, as measured in the displacement direction of the slide, that is less than the stroke of said slide, and wherein said orifice is closed by the closure wall when the slide is in its two end positions.

10034531.1238001

12/ A tapping circuit according to claim 1, wherein the removal pipe is connected continuously to the internal space of the hydraulic motor via an injection segment which is provided in a cover portion of said motor, and wherein the circuit further comprises a pipe for connection to a pressure-free reservoir connected to the internal space of the motor via a leakage return orifice of said motor.

10

13/ A tapping circuit according to claim 12, wherein the tapping and removal valve is contained in a cartridge suitable for being mounted on said cover portion by being connected to said injection segment.

15

14/ A tapping circuit according to claim 1, further comprising a receiver which has an inlet connected to an auxiliary outlet of the tapping and removal valve, and which feeds at least one auxiliary circuit with fluid under pressure.

20

15/ A tapping circuit according to claim 1, wherein the main circuit is a closed circuit, and wherein the tapping and removal valve is a replenishing valve, the tapped fluid being to be cooled.

25

FOIA b 7 - EXEMPT